



**THE PLANNING, ZONING AND HISTORICAL APPROPRIATENESS COMMISSION
(PZHAC) WILL HOLD A REGULAR MEETING AT THE MESILLA TOWN HALL, 2231
AVENIDA DE MESILLA.**

MONDAY, May 16, 2022, AT 2:30 P.M

AGENDA

1. PLEDGE OF ALLEGIANCE

2. ROLL CALL AND DETERMINATION OF A QUORUM

3. CHANGES / APPROVAL OF AGENDA

4. PUBLIC INPUT

The public is invited to address the commission for up to 3 minutes. You can also email your comments to joep@mesillanm.gov at least twenty-four (24) hours prior to the meeting.

5. APPROVAL OF CONSENT AGENDA

Note: Items on the Consent Agenda, indicated by an asterisk (), will be voted on with one motion unless a commissioner requests that a specific item be removed for discussion.*

- a. ***PZHAC MINUTES: May 2, 2022, Regular Minutes**

6. NEW BUSINESS

- a. **PZHAC Case #061382** – 2114 W Union, submitted by Roman Prieto to permit a Solar panel canopy. Zoned: **Residential Agriculture (RA)**.

7. COMMISSIONERS / STAFF COMMENTS

8. ADJOURNMENT

NOTICE

If you need an accommodation for a disability to enable you to fully participate in the hearing or meeting, please contact us at 524-3262 at least 48 hours prior to the meeting.

Posted on 4/29/2022 at the following locations: Town Hall - 2231 Avenida de Mesilla; Public Safety Building - 2670 Calle de Parian; Mesilla Community Center - 2251 Calle de Santiago; Shorty's Food Mart - 2290 Avenida de Mesilla; Ristraman - 2531 Avenida de Mesilla, and the U.S. Post Office - 2253 Calle de Parian.



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**THE PLANNING, ZONING AND
HISTORICAL APPROPRIATENESS COMMISSION (PZHAC)
MONDAY, May 2, 2022, 2:35 PM**

MINUTES

1. PLEDGE OF ALLEGIANCE

Chair Lucero led the Pledge of Allegiance.

2. ROLL CALL AND DETERMINATION OF QUORUM

Commissioners Jones, Walkinshaw, Lucero, and Nevarez were present. Commissioner Salas Absent. Community Development Coordinator Padilla declared a quorum.

3. CHANGES/APPROVAL OF THE AGENDA

Motion to approve agenda was made by Commissioner Nevarez and seconded by Commissioner Jones.

Roll Call Vote:

Commissioner Jones - Yes
Commissioner Walkinshaw - Yes
Commissioner Lucero- Yes
Commissioner Nevarez- Yes
Commissioner Salas- Absent

Motioned passed

4. PUBLIC INPUT

Susan Kreuger: Ms. Kreuger stated that item 5 B on the consent agenda, the RF zoning stated on the agenda is wrong. At the request of the Jurado family the zoning was changed from RF to a commercial zone; further, section 18 54 060 prohibits towers from commercial use from all zones except rural farm. Two suggestions: Comply with open meetings act, this item should be re advertised with the correct zoning and second, staff should confirm that no expansion appaised is involved in this upgrade request. Second: Item 6 A under new business, there is no requirement under the code that a permit for a fence in the rural farm zone be reviewed by the architectural styles committee, imposing this requirement of an applicant can be considered a violation of his or her due process. Third: Please consider a review of the historical ordinance chapter 18-33 in a joint session with the board of trustees.

51 Pat Taylor: Mr. Taylor inquired as to if they would be able to speak during the discussion of the
52 cases; in reference to the subdivision case. Chair Lucero advised to use this time for any input.
53 Mr. Taylor did not have any comments but stated others may have input. Mr. Taylor stated that
54 he has brought up having the ability to where they are able to ask questions before they hear the
55 case as it puts the public at a disadvantage; he wanted to bring it up in case she may amend the
56 rules to allow questions and answers during the case.
57

58 Edward Gale: Asked if this meeting was only pertaining to the subdivision of the property or also
59 amending the ordinances. Chair Lucero advised this was our regular meeting and there is no
60 public hearing set yet regarding the case he is concerned about. There is an agenda which is why
61 she is asking if there is any public input as to the cases on the agenda. Mr. Gale stated he already
62 talked to the surveyor, Gilbert Chavez, who is aware. He has the easement for the irrigation ditch
63 going around the Garcia property being addressed before it goes further. He asked if we are not
64 talking about amending the ordinances in which Chair Lucero confirmed it was not on the
65 agenda.
66

67 Ms. Garcia: Ms. Garcia read the sign that's on his property that the public hearing is today at 2:30
68 regarding the zone change. Chair Lucero said that was what the discussion was a while ago but
69 it's not on the agenda. It is stated as a public hearing which is why public input is only being
70 taken right now and will allow the applicant to present his case and then move it forward to the
71 next meeting. Ms. Garcia asked if the sign would be changed in which Chair Lucero said it
72 would. Ms. Garcia said that has no concerns if he meets the ordinances. Her concern is that there
73 are beehives there and if whoever buys the property or builds on the property is aware they are
74 not going anywhere. They do have a ditch behind the house and making sure the buyer is aware
75 it is a public ditch and if anyone gets stung by the bees that they will not be held responsible.
76

77 Henry Gale: His brother mentioned about the easement and wanted for it to be mentioned at the
78 next meeting that the surveyor makes sure the easement around the Garcia's is included because
79 it was not included in the original one posted on the street. He stated that it only shows the
80 easement in front of his sister's house, his brother's property and the young lady who spoke
81 earlier, but around the Garcia's, the easement is missing from the original plan that was posted.
82

83 **5. APPROVAL OF CONSENT AGENDA**

84
85 **a. PZHAC MINUTES: May 2, 2022, Regular Minutes and Case 061381**

86
87 **Motion to approve the Consent Agenda was made by Commissioner Nevarez and seconded**
88 **by Commissioner Walkinshaw.**

89
90 **Roll Call Vote:**

91 Commissioner Jones - Yes

92 Commissioner Walkinshaw - Yes

93 Commissioner Lucero - Yes

94 Commissioner Nevarez – No; voted based on what was listed on the agenda

95 Commissioner Salas – Absent
96

97 **Motioned passed**
98

99 **6. NEW BUSINESS**
100

101 a. **PZHAC CASE #061378** – 28 Stanford was submitted by Leonardo LePoldo Quintana to
102 build a ranch style fence around the property. It is over the 5 acres. The building of the fence
103 had begun but was halted by Mr. Padilla and zoning as it did not meet the permit
104 requirements.

105 Mr. Quintana would like to continue to build his fence and is aware of the double fine for
106 building it out of permit. **Zoned: Rural Farm (RF)**
107

108 **Motion to approve was presented by Commissioner Jones and seconded by**
109 **Commissioner Nevarez.**
110

111 Staff presented facts of the case. Discussion followed.
112

113 **Roll Call Vote:**

114 Commissioner Jones - Yes
115 Commissioner Walkinshaw - Yes
116 Commissioner Lucero - Yes
117 Commissioner Nevarez – Yes
118 Commissioner Salas – Absent
119

120 **Motioned passed**
121

122 b. **PZHAC CASE #061377** – 2305 Calle de Colon to install a gutter system in front of the house.
123 There is an existing gutter system that he would like to match to the home; pictures provided.
124 **Zoned: Historical Residential (HR)**
125

126 **Motion to approve was presented by Commissioner Jones and seconded by Commissioner**
127 **Walkinshaw. Mr. Nevarez excused himself.**
128

129 Staff presented facts of the case. Discussion followed.
130

131 **Roll Call Vote:**

132 Commissioner Jones - Yes
133 Commissioner Walkinshaw - Yes
134 Commissioner Lucero - Yes
135 Commissioner Nevarez – Excused
136 Commissioner Salas – Absent
137

138 **Motion passed**
139

140 c. **PZHAC CASE #061379** – 201 Capri Road submitted by Murray Ray to replace the existing
141 fence with a 6 ft tall chain link fence. Photos are in packet. He is proposing to eliminate the
142 existing the fence due to the appearance and issues with neighbors' pets. **Zoned: R1**
143

144 **Motion to approve was presented by Commissioner Jones and seconded by Commissioner**
145 **Nevarez.**
146

147 Staff presented the facts of the case. Discussion followed.
148

149 **Roll Call Vote:**

150 Commissioner Jones - Yes
151 Commissioner Walkinshaw - Yes

152 Commissioner Lucero - Yes
153 Commissioner Nevarez – Yes
154 Commissioner Salas – Absent

155
156 **Motion passed**
157

- 158 d. **PZHAC CASE #061380** – 210 Calle Del Norte submitted by Mr. Juan Caro to place a 2 ft. fence
159 around the property. Complete the wall with wrought iron to a 6 ft. tall height level with the rock
160 at 2 ft. Mr. Caro present. **Historical Residential (HR)**
161

162 **Motion to approve was presented by Commissioner Jones and seconded by Commissioner**
163 **Walkinshaw.**
164

165 Staff presented the facts of the case. Discussion followed.
166

167 **Roll Call Vote:**

168 Commissioner Jones - Yes
169 Commissioner Walkinshaw - Yes
170 Commissioner Lucero - Yes
171 Commissioner Nevarez – Yes
172 Commissioner Salas – Absent
173

174 **Motion passed**
175

- 176 e. **PZHAC CASE #061376** – Papa Williamson seeking approval to move to the next steps for a
177 summary subdivision to replat US RS track 11A-19 and 11A-19AA within the town of Mesilla,
178 Dona Ana County, New Mexico in Section 25 T.23SR.13 of the USRS “2535 Calle Del Norte”.
179 Mr. Chavez and Mr. Williamson present for questions. **Zoned: Historical Residential (HR)**
180

181 **Motion to approve was presented by Commissioner Jones and seconded by Commissioner**
182 **Walkinshaw.**
183

184 Staff presented the facts of the case. Discussion followed.
185

186 **Roll Call Vote:**

187 Commissioner Jones – Yes
188 Commissioner Walkinshaw – Yes
189 Commissioner Lucero – Yes
190 Commissioner Nevarez – Yes
191 Commissioner Salas – Absent
192

193 **Motion passed**
194

195 **7. COMMISSON/STAFF COMMENTS**

196 Mr. Nevarez: In the class forum of trustees there was some discussion regarding renters. What is
197 being preserved in Mesilla and what is the vision. What do we expect to Mesilla to look like in
198 20 to 30 years? What is the vision when we are talking preservation; is it a way of life? We need
199 a good discussion as to what we are looking at and what it really means. It’s time for this
200 discussion to be held. Chief work session with us and the Board of Trustees, we are planning and
201 zoning and historical appropriateness commission. For example, there are a lot of applications
202 that are trying to build additional homes for rentals in the historical area. Do we want to change

203 the look of Mesilla? Do we want to add more rentals? There has been a petition circulated in the
204 past where they do not want additional renters in Mesilla. A question and concern is that we need
205 to look at the development zone and what is best for Mesilla. What is our vision as a Board; not
206 just the planning, but as the Board of Trustees. Do we want to see growth like that? If we look at
207 Las Cruces, we can't tell where things start and where it ends. We need to know our vision and
208 look at our historical preservation and what we will allow in Mesilla. Our ordinances are strict.
209 Chair Lucero agrees with Mr. Nevarez's concern and decisions need to be made as to if continued
210 growth will be allowed. Chief Lucero would like Mesilla to stay as unique as possible, wants
211 businesses to flourish, wants it to be an area that is appealing and for people to come because it is
212 a unique place. We need to be prepared. We need to have a joint session. Would like to
213 encourage the public need to speak to their neighbors to see how they feel. If they feel strongly
214 either way, letters need to be sent, petitions need to be filed. People come from different parts of
215 the world and comment on the uniqueness of the area. Mr. Padilla will relay this to the Board of
216 Trustees.

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218

219 **8. ADJOURNMENT**

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221
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Meeting adjourned at 3:30 p.m.

223 **APPROVED THIS 16th DAY OF MAY 2022.**

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Yolanda Lucero
Chair

229
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232

233 **ATTEST:**

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236

Joe Padilla
Community Development Coordinator

237
238

ACTION FORM

AGENDA DATE

PZHAC: May 16, 2022,

BOT:

ITEM: PZHAC Case #061365 – 2114 W Union, submitted by Roman Prieto to install a solar panel canopy. **Zoned: Residential Agriculture (RA)**

BACKGROUND AND ANALYSIS: This property is in the Residential Agriculture Zone

Yellow Bird Services LLC proposes to install one solar structure with thirty (30) panels on a 658sqft solar support, nine (9) panels will be mounted on rooftop,

IMPACT:

- The PZHAC has jurisdiction to recommend approval of the applicant's request for approval of this request to the BOT.
- The applicant has the authority to make an application request to the PZHAC and BOT.
- Due process was provided to the applicant.

Specific findings of fact:

- The proposed work is on applicant's property and not in Town of Mesilla right-of-way.

ALTERNATIVES:

The Planning, Zoning and Historical Appropriateness Commission (PZHAC) may:

1. Recommend approval of this case with findings stated above.
2. Recommend approval of this case with findings stated above and conditions.
3. Deny the application.

DEPARTMENT RECOMMENDATIONS:

SUPPORTING INFORMATION:

- Application
- Plans

TOWN OF MESILLA
ZONING APPROVAL

OFFICIAL USE ONLY:

Case # 061382

Fee \$ 783.00

Fee to PZCO
Review 8/8/22

PERMISSION TO CONDUCT WORK
OR
OBTAIN A COMMERCIAL/RESIDENTIAL BUILDING PERMIT FROM CID

2231 Avenida de Mesilla, P.O. Box 10, Mesilla, NM 88046 (575) 524-3262 ext. 104

RECEIVED

CASE NO. _____ ZONE: _____ CODE: _____ APPLICATION DATE: 5/2/22 5/2/22

Roman Prieto 575-621-2456
Name of Property Owner Property Owner's Telephone Number
2114 West Union Las Cruces NM 88005
Property Owner's Mailing Address City State Zip Code

Property Owner's E-mail Address
Yellow Bird Services LLC

Contractor's Name & Address (If none, indicate Self)
575-523-8089 46-3931729 820200
Contractor's Telephone Number Contractor's Tax ID Number Contractor's License Number

Address of Proposed Work: 2114 West Union Ave

Description of Proposed Work: Solar Project- Please see attachments

\$ 51,158.07 Esmeralda Villegas 5/2/22
Estimated Cost Signature of Applicant Date

Signature of property owner: Roman Prieto

With the exception of administrative approvals, all permit requests must undergo a review process from staff, PZHAC and/or BOT before issuance of a zoning permit. **Plan sheets are to be no larger than 11 x 17 inches or shall be submitted electronically.**

FOR OFFICIAL USE ONLY

PZHAC Administrative Approval BOT Approved Date: _____
 Approved Date: _____ Disapproved Date: _____
 Disapproved Date: _____ Approved with Conditions
 Approved with conditions

PZHAC APPROVAL REQUIRED: ___ YES ___ NO BOT APPROVAL REQUIRED: ___ YES ___ NO

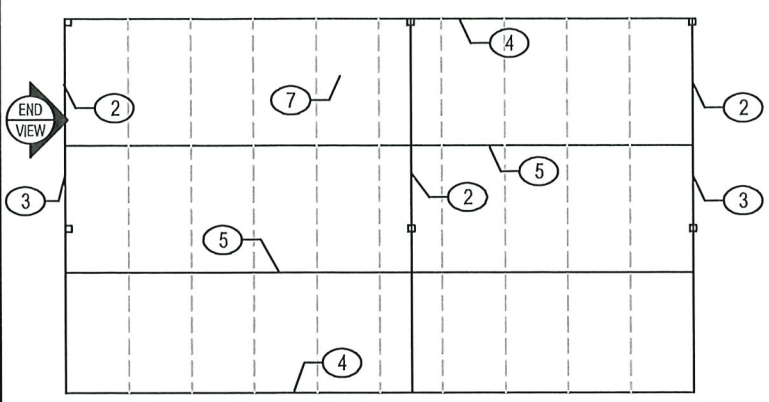
CID PERMIT/INSPECTION REQUIRED: ___ YES ___ NO ___ SEE CONDITIONS

CONDITIONS: _____

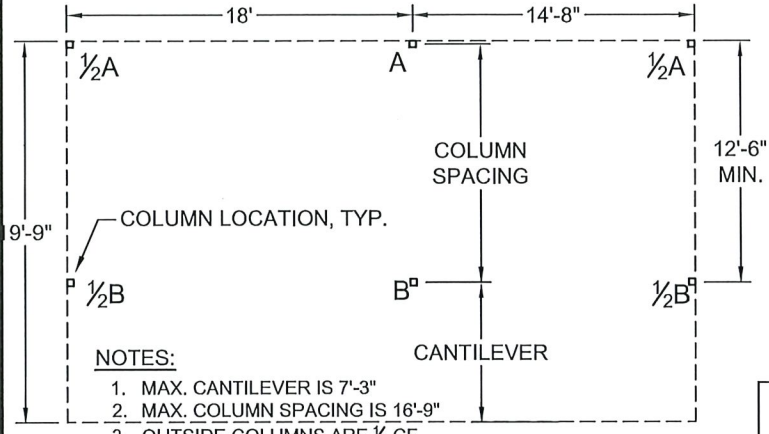
PERMISSION ISSUED/DENIED BY: _____ ISSUE DATE: _____

THIS APPLICATION SHALL INCLUDE ALL OF THE FOLLOWING:

- Plot plan with legal description to show existing structures, adjoining streets, driveway(s), improvements & setbacks. Verification shall show that the lot was LEGALLY subdivided through the Town of Mesilla or that the lot has been in existence prior to February 1972.
- Site Plan with dimensions and details.
- Foundation plan with details.
- Floor plan showing rooms, their uses and dimensions.
- Cross section of walls
- Roof and floor framing plan
- Proof of legal access to the property.
- Drainage plan.
- Details of architectural style and color scheme (checklist included for Historical zones) – diagrams and elevations.
- Proof of sewer service or a copy of septic tank permit; proof of water service (well permit or statement from the Public Utility providing water services).
- Proof of legal access to the property.
- Other information as necessary or required by the City Code or Community Development Department (See other side.)



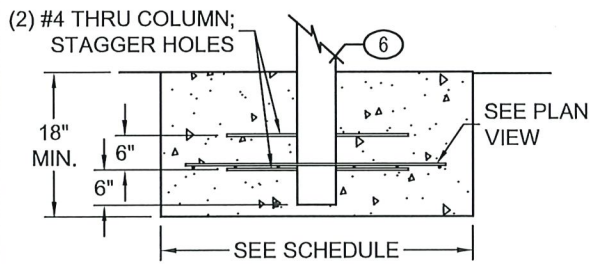
FRAMING PLAN



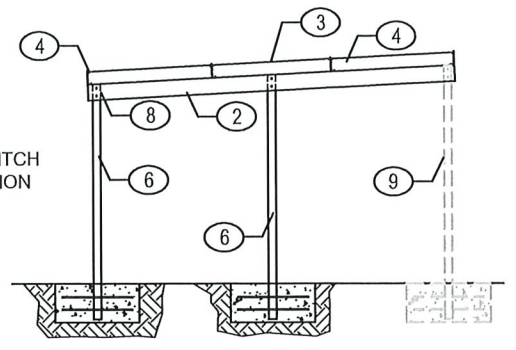
FOUNDATION PLAN

NOTES:

1. MAX. CANTILEVER IS 7'-3"
2. MAX. COLUMN SPACING IS 16'-9"
3. OUTSIDE COLUMNS ARE 1/2 CF OF INSIDE COLUMNS



TYPICAL FOOTING SECTION



END VIEW

NOTE:
CANOPY CAN PITCH EITHER DIRECTION

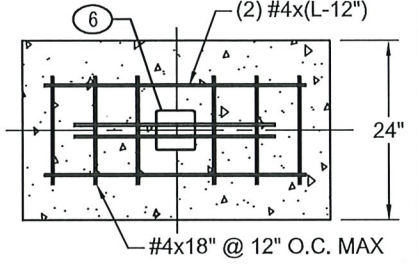
KEYED NOTES

1. NOT USED
2. (2) 10x2.5 14 GA.
3. 8" GALVANIZED CHANNEL
4. EXTERIOR SUPER PURLIN, 0.063" THICK, 75 KSI
5. INTERIOR SUPER PURLIN, 0.074" THICK, 75 KSI
6. (4) 4"x4" 14 GA. SQ. TUBING, 13' MAX. CLRNC.
7. SOLAR PANEL, TYP.
8. MIN. (2) 1/2" DIA. BOLTS W/ NUT & WASHER
9. ALTERNATE COLUMN LOCATION

24" FOOTING TABLE
(AS CONFIGURED IN PLAN)

Ftg	Length @ 18"x24"	SF @ 24"	CF
A	4'-4"	6.5	13.0
B	10'-2"	15.25	30.5

TOTAL VOL. OF CONC. = 43.5

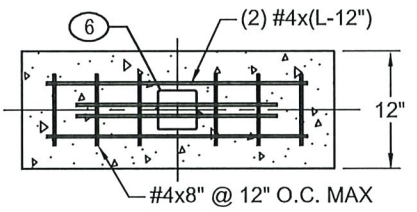


24" WIDE FOOTING PLAN VIEW

12" FOOTING TABLE
(AS CONFIGURED IN PLAN)

Ftg	Length @ 18"x12"	SF @ 12"	CF
A	8'-8"	13.0	13.0
B	20'-4"	30.5	30.5

TOTAL VOL. OF CONC. = 43.5



12" WIDE FOOTING PLAN VIEW

GENERAL NOTES:

1. THIS DRAWING IS INTENDED TO BE ADJUSTABLE TO FIT VARYING FIELD CONDITIONS. THE "B" COLUMNS CAN BE ADJUSTED TO THE MAX. COLUMN SPACING SHOWN. A/B FOOTING SIZES MUST BE PROPORTIONALLY ADJUSTED, AND THE OVERALL TOTAL CF OF CONCRETE MUST BE MAINTAINED.
2. TYPICAL FOOTING IS 24" WIDE x 18" DEEP BUT CAN BE VARIED AS SHOWN IN THE FOOTING TABLE.
3. FOUNDATION PLAN DIMENSIONS ARE NOMINAL AND MAY VARY BY 8" ±. CONTRACTOR IS RESPONSIBLE FOR FINAL LAYOUT TO ACCOMMODATE PANELS.
4. SOLAR PANEL SUPPORT MEMBERS ARE "SUPER PURLINS" SUPPLIED BY POWERS SOLAR FRAMES LLC.
5. USE MIN. (2) 1/2" DIA. BOLTS W/ NUT & WASHER AT COLUMN AND BEAM CONNECTIONS AND #12 TEK SCREWS FOR MISC. ATTACHMENTS.
6. FOOTING "LENGTH" DEPENDENT UPON COLUMN SPACING, USE STRAIGHT LINE INTERPOLATION.

DESIGN LOADS:

MIN. ROOF WIND LOAD 25 PSF
MIN. ROOF DEAD LOAD 5 PSF
LIVE LOAD ELIMINATED BY PANELS

SEISMIC:

SEISMIC GROUP 1
IMPORTANCE FACTOR, I = 1.0
SOILS SITE CLASS D

WIND:

3-SECOND GUST = 105 MPH
NOMINAL SPEED = 81 MPH
PRESSURE (0-30 FT) = 20 PSF
IMPORTANCE FACTOR, I = 1.0
EXPOSURE "B"
RISK CATEGORY I



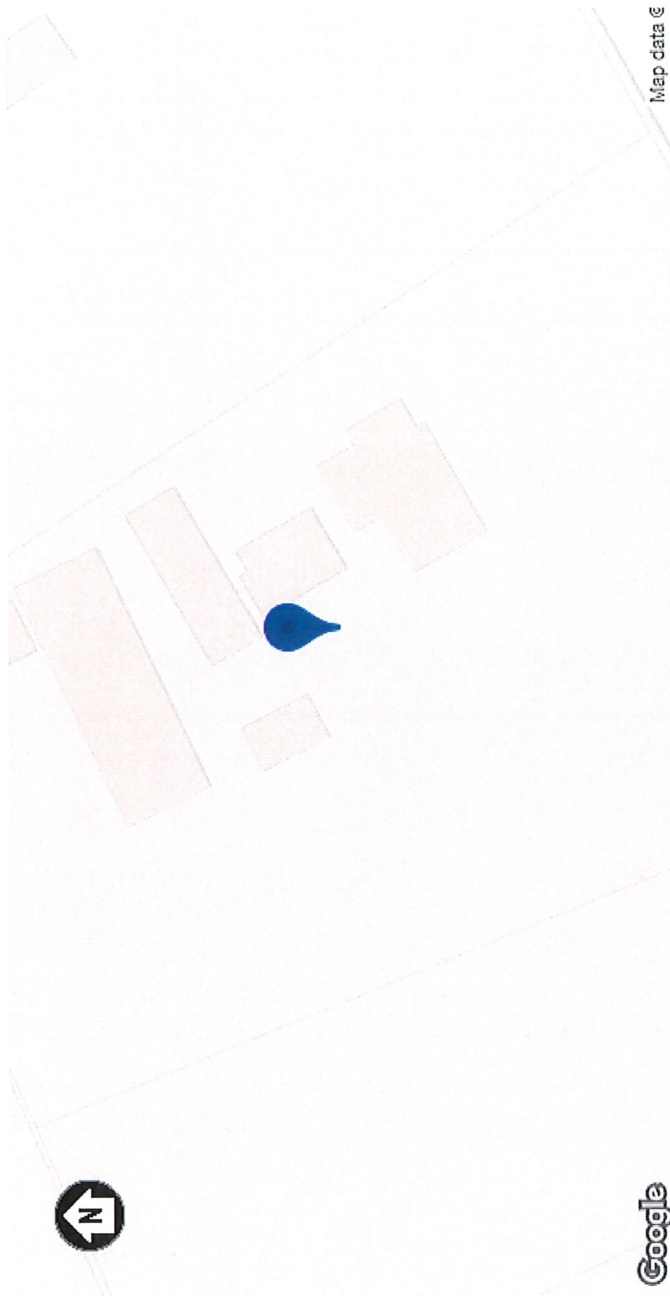
01/24/22
NOT TO SCALE

LILLEY ENGINEERING INC.
5160 CALLE BELLISIMA LAS CRUCES, NM 88011 (575) 521-0006

3x10 SOLAR PANEL CANOPY
2114 WEST UNION AVE
LAS CRUCES, NM

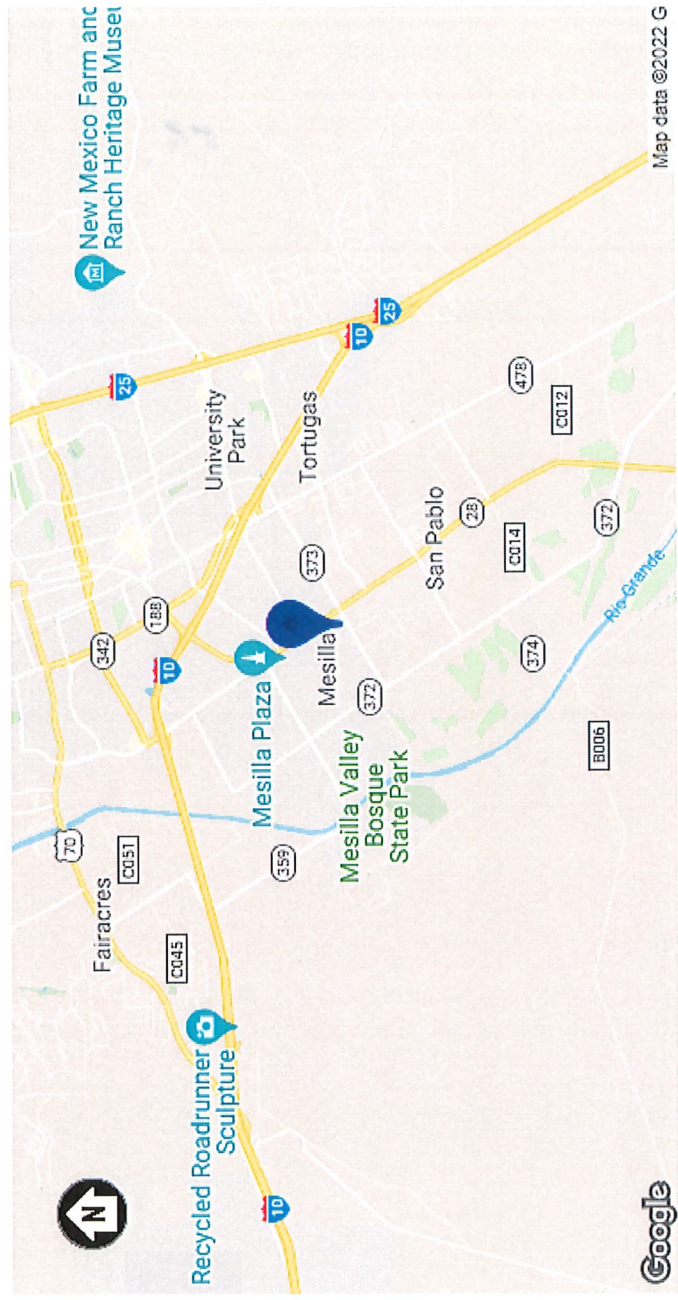
PROJECT	200403	
CLIENT	YELLOWBIRD	
DRAWING NO.	YELLOWBIRD	
REV. NO.	0	1
DRAWN BY	DL	of
DATE	01/24/22	1

DIRECTORY OF PAGES	
PV-1	PROJECT SUMMARY
PV-2	SITE PLAN
PV-3	SINGLE-LINE DIAGRAM
PV-4	SAFETY LABELS
PV-5	ATTACHMENT PLAN
PV-6	ATTACHMENT DETAILS
PV-7	FIRE SAFETY PLAN
APPENDIX	
	MODULE DATASHEET
	ARRAY WIRING BOX DATASHEET
	DISCONNECT DATASHEET
	INVERTER DATASHEET
	MOUNTING SYSTEM DATASHEET
	MOUNTING SYSTEM ENGINEERING LETTER
	MOUNTING SYSTEM ENGINEERING LETTER
	UL 2703 GROUND AND BONDING CERTIFICATION
	ANCHOR DATASHEET



1 PLOT
PV-1 SCALE: NTS

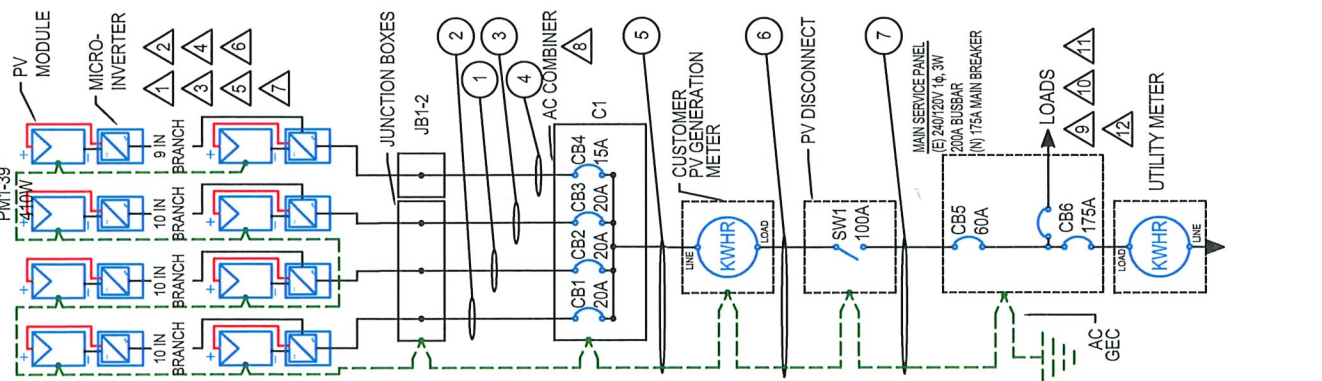
PROJECT DETAILS	
PROPERTY OWNER	INDALECIO PRIETO
PROPERTY ADDRESS	2114 W UNION AVE, LAS CRUCES, NM 88005 US
ZONING	RESIDENTIAL
USE AND OCCUPANCY CLASSIFICATION	ONE- OR TWO-FAMILY DWELLING GROUP (GROUP R3)
AHJ	STATE OF NEW MEXICO
UTILITY COMPANY	EL PASO ELECTRIC CO
ELECTRICAL CODE	2017 NEC (NFPA 70)
FIRE CODE	2012 IFC
OTHER BUILDING CODES	2015 NM RES. BUILDING CODE 2015 NM PLUMBING CODE 2015 NM MECHANICAL CODE



CONTRACTOR INFORMATION	
COMPANY	YELLOW BIRD SERVICES, LLC
LICENSE NUMBER	380200
ADDRESS	351 N 17TH ST, LAS CRUCES, NM 88005



1 SITE PLAN
PV-2 SCALE: 1" = 30'



MODULES									
REF.	QTY.	MAKE AND MODEL	PMAX	PTC	ISC	IMP	VOC	VMP	TEMP. COEFF. OF VOC
PM1-39	39	JINKO JK0410M-72HL-V	410W	381W	10.60A	9.69A	50.4V	42.3V	-0.141V/°C (-0.28%/°C)

INVERTERS				
REF.	QTY.	MAKE AND MODEL	RATED POWER	MAX INPUT CURRENT
I1-39	39	ENPHASE IQ7PLUS-72-2-US	290W	1.2A
		GROUND		
		NOT SOLIDLY GROUNDED		

DISCONNECTS		
REF.	QTY.	MAKE AND MODEL
SW1	1	SQUARE D DU223RB OR EQUIV.

OCPDS				
REF.	QTY.	RATED CURRENT	RATED VOLTAGE	MAX INPUT VOLTAGE
CB1-3	3	20A	600VAC	60V
CB4	1	15A		
CB5	1	60A		
CB6	1	175A		

NOTES

- 1 THE DC AND AC CONNECTORS OF THE ENPHASE IQ7PLUS-72-2-US AND ARE LISTED TO MEET REQUIREMENTS AS A DISCONNECT MEANS AS MATING CONNECTORS SHALL COMPLY WITH NEC 690.33.
- 2 THE ENPHASE IQ7PLUS-72-2-US HAS A CLASS II DOUBLE-INSULATED RATING AND DOES NOT REQUIRE GROUNDING ELECTRODE CONDUCTOR (GEC). THE RATING INCLUDES GROUND FAULT PROTECTION (GFP). TO SUPPORT GFP, USE ONLY PV MODULES LABELED PV WIRE OR PV CABLE.
- 3 ENPHASE SYSTEM MEETS REQUIREMENTS FOR PHOTOVOLTAIC RAPID SHUTDOWN SYSTEM (PVRSS), AS PER NEC 690.12(B).
- 4 MICROINVERTER BRANCH CIRCUIT CONDUCTORS ARE MANUFACTURED ENPHASE Q CABLES LISTED FOR USE IN 20A OR LESS CIRCUITS OF TYPE THHN/THWN-2 DRY/WET AND C1 THEY ARE ROHS, OIL RESISTANT, AND UV RESISTANT. THEY CONTAIN TWO 12 AWG CONDUCTORS OF TYPE THHN/THWN-2 DRY/WET AND C1
- 5 DC PV CONDUCTORS ARE NOT SOLIDLY-GROUNDED. NO DC PV CONDUCTOR SHALL BE WHITE- OR GRAY-COLORED
- 6 ALL METAL ENCLOSURES, RACEWAYS, CABLES AND EXPOSED NONCURRENT-CARRYING METAL PARTS OF EQUIPMENT SHALL BE GROUND TO NEC 250.4(A) AND PART III OF ARTICLE 250 AND EQUIPMENT GROUNDING CONDUCTORS SHALL BE SIZED ACCORDING TO NEC 690.45. THE C SHALL ADHERE TO NEC 690.47(A) AND NEC 250.168. THE DC GROUNDING ELECTRODE SHALL BE SIZED ACCORDING TO NEC 250.168 AND IN: NEC 250.64.
- 7 MAX DC VOLTAGE OF PV MODULE IS 57.2V AT -23°C (-23.33°C - 25°C), X-0.141V/C + 50.4V = 57.2V.
- 8 AC AGGREGATION PANEL BUSBAR AND THE OVERCURRENT PROTECTION PROTECTING THE BUSBAR SHALL BE SIZED IN ACCORDANCE WITH (E) 200A MAIN BREAKER DERATED TO (N) 175A
- 9 POINT-OF-CONNECTION IS ON LOAD SIDE OF SERVICE DISCONNECT, IN COMPLIANCE WITH NEC 705.12(B)(2)(3)(B). OUTPUT IS BACKFED TH
- 10 THE BREAKER SHALL BE LOCATED AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN BREAKER. THE BREAKER SHALL NOT BE MARKED BY THE UTILITY. THE I
- 11 PV SYSTEM DISCONNECT SHALL BE A VISIBLE KNIFE-BLADE TYPE DISCONNECT THAT IS ACCESSIBLE AND LOCKABLE BY THE UTILITY. THE I WITHIN 10 FT OF UTILITY METER. DISCONNECT SHALL BE GROUNDED IN ACCORDANCE WITH NEC 230.72.

SYSTEM SUMMARY				
	BRANCH 1	BRANCH 2	BRANCH 3	BRANCH 4
INVERTERS PER BRANCH	10	10	10	9
MAX AC CURRENT	12.1A	12.1A	12.1A	10.89A
MAX AC OUTPUT	2,900W	2,900W	2,900W	2,610W
ARRAY STC POWER	15,990W			
MAX AC CURRENT	14.855W			
MAX AC POWER OUTPUT	47A			
DERATED AC POWER OUTPUT	11,310W			

CONDUCTOR AND CONDUIT SCHEDULE W/ELECTRICAL CALCULATIONS											
ID	TYPICAL	CONDUCTOR	CONDUIT / CABLE	CURRENT-CARRYING CONDUCTORS IN CONDUIT / CABLE	OCPD	EGC	TEMP. CORR. FACTOR	FILL FACTOR	CONT. CURRENT (125%)	BASE AMP.	DERATE AMP.
1	1	12 AWG THWN-2, COPPER	0.5" DIA. EMT	6	20A	12 AWG THWN-2, COPPER	0.96 (85°C)	0.8	12.1A	30A	23.04A
2	1	12 AWG THWN-2, COPPER	0.5" DIA. EMT	6	20A	12 AWG THWN-2, COPPER	0.96 (85°C)	0.8	12.1A	30A	23.04A
3	1	12 AWG THWN-2, COPPER	0.5" DIA. EMT	6	20A	12 AWG THWN-2, COPPER	0.96 (85°C)	0.8	12.1A	30A	23.04A
4	1	12 AWG THWN-2, COPPER	0.5" DIA. EMT	2	15A	12 AWG THWN-2, COPPER	0.96 (85°C)	1.0	10.89A	30A	26.8A
5	1	3 AWG THWN-2, COPPER	1" DIA. EMT	2	60A	6 AWG THWN-2, COPPER	0.96 (85°C)	1.0	47.19A	115A	110.4A
6	1	3 AWG THWN-2, COPPER	1" DIA. EMT	2	60A	6 AWG THWN-2, COPPER	0.96 (85°C)	1.0	47.19A	115A	110.4A
7	1	3 AWG THWN-2, COPPER	1" DIA. EMT	2	60A	6 AWG THWN-2, COPPER	0.96 (85°C)	1.0	47.19A	115A	110.4A

C1 - AC COMBINER
(ENPHASE IQ COMBINER+)

3

SW1 - DISCONNECT
(SQUARE D DU223RB)

4 **5** **6** **6**

MSP - MAIN SERVICE PANEL

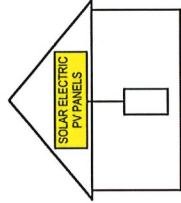
1 **2** **5** **6** **7**

8 **9**

1 SEE NOTE NO. 4 (MSP)

PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN SWITCH TO THE 'OFF' POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN THE ARRAY.



NEC690.56(C)(1)

3 AC COMBINER PANEL (C1)

! WARNING !

THIS EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL RATING OF ALL OVERCURRENT DEVICES, EXCLUDING MAIN OVERCURRENT DEVICE SHALL NOT EXCEED AMPACITY OF BUSBAR.

NEC705.12(B)(2)(3)(C)

4 EACH DISCONNECTING MEANS FOR PHOTOVOLTAIC EQUIPMENT (SW1)

! WARNING !

ELECTRIC SHOCK HAZARD. TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION.

NEC690.13(B)

7 SOLAR BREAKER (MSP)

MAIN BREAKER HAS BEEN RESIZED TO 175 AMPS. DO NOT UPSIZE BREAKER.

2 POINT-OF-INTERCONNECTION OR AT MAIN SERVICE DISCONNECT (MSP)

! CAUTION !

POWER TO THIS BUILDING IS ALSO FROM ROOF AND GROUND ARRAYS WITH DISCONNECTS AS SHOWN



INSTALLED BY YELLOW BIRD SERVICES, LLC • 575-523-8089

NEC690.56(B),705.10

5 AC DISCONNECT (SW1, CB5 IN MSP)

MAXIMUM AC OPERATING CURRENT: 47.2A
MAXIMUM AC OPERATING VOLTAGE: 240V

NEC690.54

8 ANY AC ELECTRICAL PANEL THAT IS FED BY BOTH THE UTILITY AND THE PHOTOVOLTAIC SYSTEM (MSP)

6 AC SOLAR DISCONNECT (SW1, CB5 IN MSP)

PV SYSTEM DISCONNECT

NEC690.13(B)

9 SOLAR BREAKER (MSP)

! WARNING !
DUAL POWER SOURCE. SECOND SOURCE IS PHOTOVOLTAIC SYSTEM.

! WARNING !
INVERTER OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE.

ROOF PROPERTIES	
ROOF MATERIAL	TRAPEZOIDAL METAL (1-4IN)
SLOPE	6/12 (26.6°)
MEAN ROOF HEIGHT	23.7FT
DECK SHEATHING	15/32" OSB
CONSTRUCTION	TRUSSES (2X4 TOP-CHORD), 24IN OC

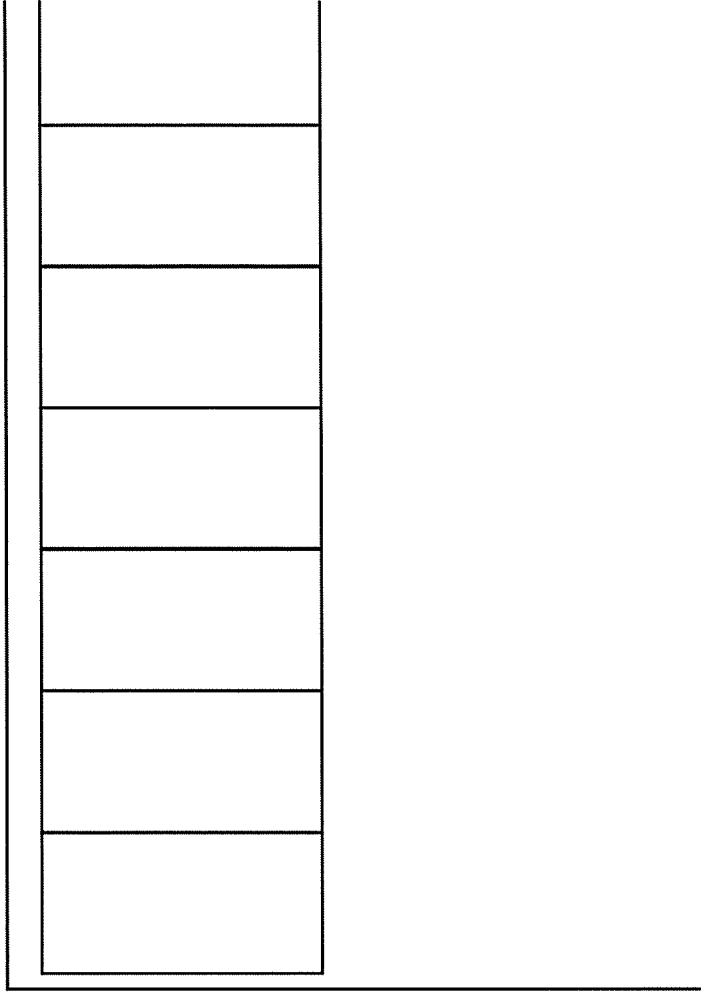
MODULE MECHANICAL PROPERTIES	
MODEL	JINKO JKIM410M-72HL-V
DIMENSIONS (AREA)	79.1IN X 39.4IN X 1.6IN (21.7 SQ FT)
WEIGHT	49.6LB

MOUNTING SYSTEM PROPERTIES	
MAX. MOUNT SPACING	48.0IN (ZONES 1, 2, AND 3)
MAX. ALLOW. CANTILEVER	15.8IN (ZONES 1, 2, AND 3)
GROUNDING AND BONDING	INTEGRAL GROUNDING CERTIFIED TO UL 2703 REQUIREMENTS

NOTES	
1	TRUSS LOCATIONS ARE APPROXIMATE. ACTUAL LOCATIONS MAY DIFFER AND CONTRACTOR MAY NEED TO ADJUST MOUNT LOCATIONS. IN NO CASE SHALL THE MOUNT SPACING EXCEED "MAX. MOUNT SPACING"



RIDGE



EAVE



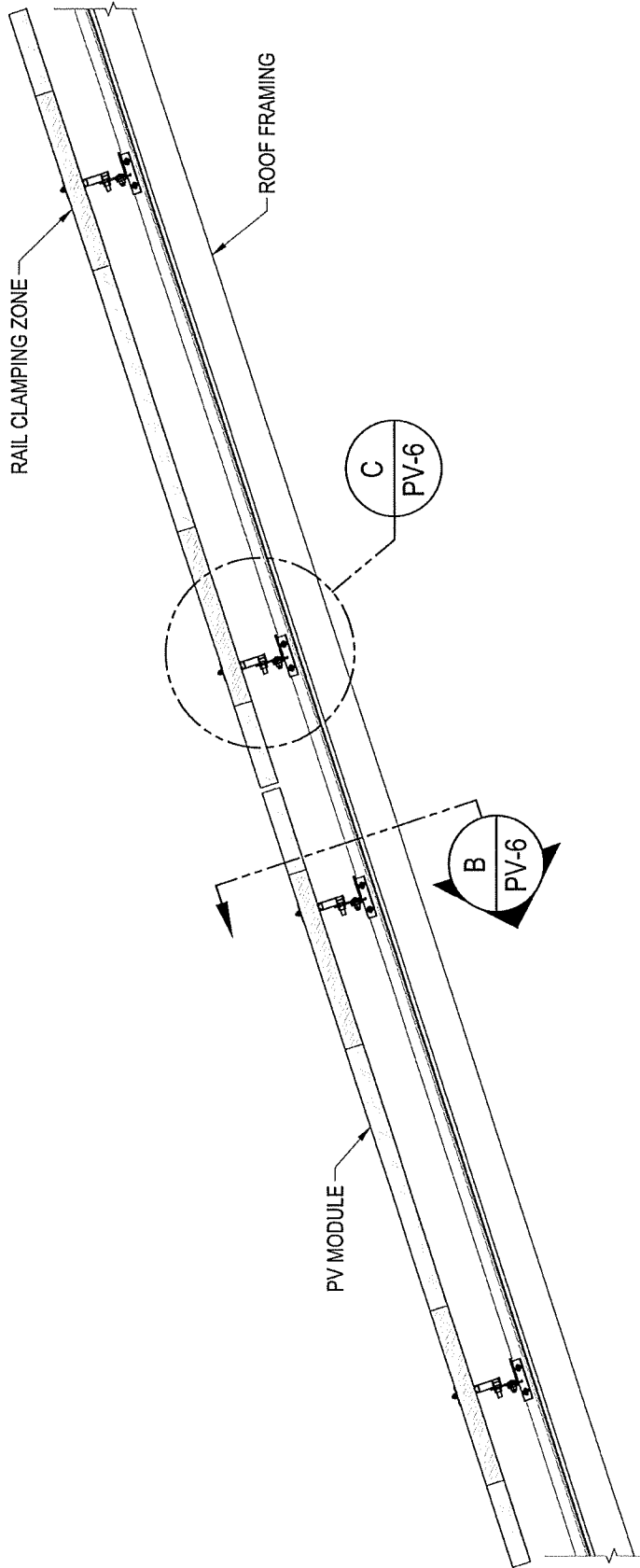
WIND ZONE I



WIND ZONE II



1	FLASHING SHALL IF THERE IS ANY (
2	PROVIDED BY A V SUPERCEDE.



UNIRAC SOLAR
MIC

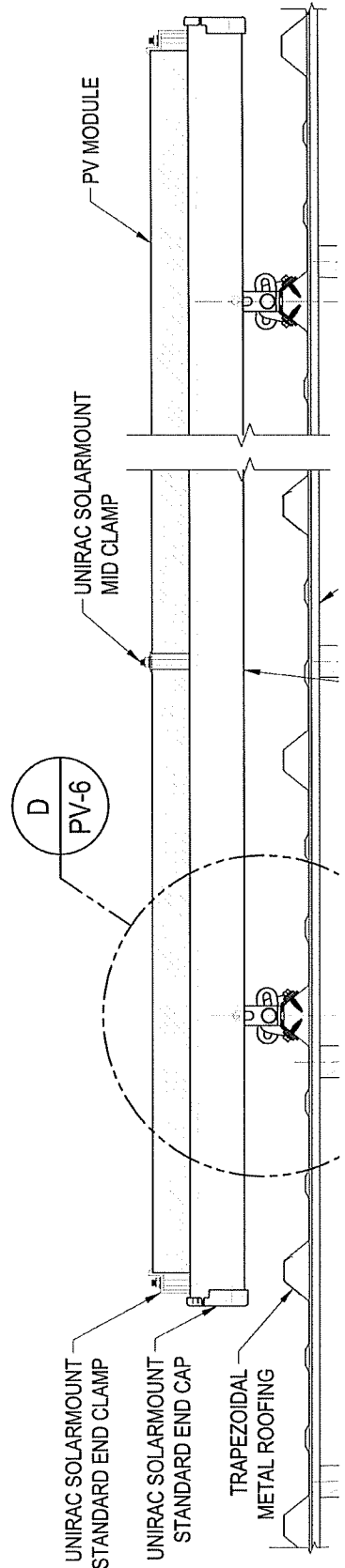
PV MODULE

S-5I PROTEABRACKET

TRAPEZOIDAL
METAL ROOF

A RACKING ELEVATION (TRANSVERSE VIEW)
PV-6 SCALE: NTS

C ATTACH
PV-6 SCALE: N



PV MODULE

S-5I PROTEABRACKET



1 FIRE SAFETY PLAN
PV-7
SCALE: 1" = 30'

Enphase IQ Combiner+

MODEL NUMBER

IQ Combiner+ X-IQ-AM1-240-2

ACCESSORIES (order separately)

Enphase Mobile Connect™
CELLMODEM-03 (4G / 12-year data plan)
CELLMODEM-01 (3G / 5-year data plan)
CELLMODEM-M1 (4G LTE CAT-M1 / 5-year data
Consumption Monitoring CT
CT-200-SPLIT

Circuit Breakers
BRK-15A-2-240
BRK-20A-2-240

ELECTRICAL SPECIFICATIONS

Rating
System voltage
Eaton BR series busbar rating
Max. continuous current rating (output to grid)
Max. fuse/circuit rating (output)
Branch circuits (solar and/or storage)
Max. continuous current rating (input from PV)
Max. total branch circuit breaker rating (input
Production Metering CT

MECHANICAL DATA

Dimensions (WxHxD)
Weight
Ambient temperature range
Cooling
Enclosure environmental rating
Wire sizes

Altitude

INTERNET CONNECTION OPTIONS

Integrated Wi-Fi

Enphase IQ Combiner+ (X-IQ-AM1-240-2)

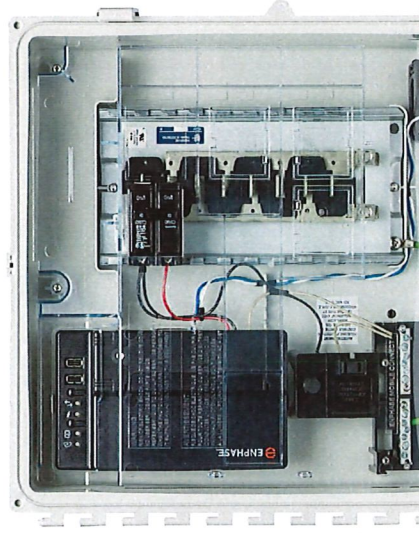
The **Enphase IQ Combiner+**™ with Enphase IQ Envoy™ consolidates interconnection equipment into a single enclosure and streamlines PV and storage installations by providing a consistent, pre-wired solution for residential applications. It offers up to four 2-pole input circuits and Eaton BR series busbar assembly.

Smart

- Includes IQ Envoy for communication and control
- Flexible networking supports Wi-Fi, Ethernet, or cellular
- Provides production metering and optional consumption monitoring
- Supports installation of the Enphase Q Aggregator™

Simple

- Eaton BR series panelboard interior
- Up to four 2-pole branch circuits for 240 VAC



Product data sheet

Characteristics

D223NRB

Safety switch, general duty, fusible, 100A, 2 poles, 30 hp, 120 VAC, NEMA 3R, bolt-on provision, neutral factory installed

Product availability : Stock - Normally stocked in distribution facility



Price* : 480.00 USD



Main

Product	Single Throw Safety Switch
Current Rating	100 A
Certifications	UL listed file E2875
Enclosure Rating	NEMA 3R
Disconnect Type	Fusible disconnect switch
Factory Installed Neutral	Neutral (factory installed)
Short Circuit Current Rating	100 kA maximum depending on fuse H, K or R
Mounting Type	Surface
Number of Poles	2
Electrical Connection	Lugs
Duty Rating	General duty

to be used for determining suitability or reliability of these products for specific user applications

Maximum Width	1
Maximum Depth	6

Ordering and shipping details

Category	0
Discount Schedule	D
GTIN	0
Nbr. of units in pkg.	1
Package weight(Lbs)	1
Returnability	Y
Country of origin	U

Packing Units

Unit Type of Package 1	P
Package 1 Height	7
Package 1 width	1
Package 1 Length	2
Unit Type of Package 2	P
Number of Units in Package 2	4
Package 2 Weight	6
Package 2 Height	4
Package 2 width	4
Package 2 Length	4

Offer Sustainability

Sustainable offer status	G
California proposition 65	W
REACH Regulation	R
REACH free of SVHC	Y
EU RoHS Directive	C
Mercury free	E
RoHS exemption information	Y
China RoHS Regulation	C
Environmental Disclosure	P
PVC free	Y

Enphase IQ 7 and IQ 7+ Microinverters

The high-powered smart grid-ready **Enphase IQ 7 Micro™** and **Enphase IQ 7+ Micro™** dramatically simplify the installation process while achieving the highest system efficiency.

Part of the Enphase IQ System, the IQ 7 and IQ 7+ Microinverters integrate with the Enphase IQ Envoy™, Enphase IQ Battery™, and the Enphase Enlighten™ monitoring and analysis software.

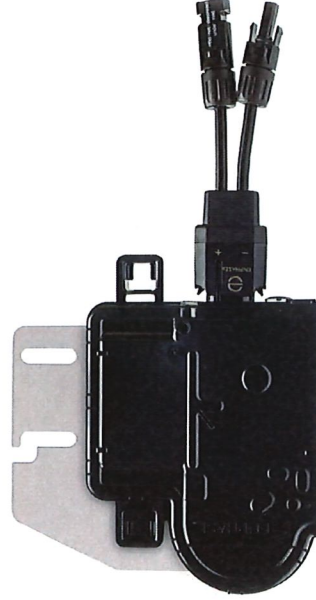
IQ Series Microinverters extend the reliability standards set forth by previous generations and undergo over a million hours of power-on testing, enabling Enphase to provide an industry-leading warranty of up to 25 years.

Easy to Install

- Lightweight and simple
- Faster installation with improved, lighter two-wire cabling
- Built-in rapid shutdown compliant (NEC 2014 & 2017)

Productive and Reliable

- Optimized for high powered 60-cell and 72-cell* modules
- More than a million hours of testing
- Class II double-insulated enclosure
- UL listed



Enphase IQ 7 and IQ 7+ M

INPUT DATA (DC)

Commonly used module pairings ¹
Module compatibility
Maximum input DC voltage
Peak power tracking voltage
Operating range
Min/Max start voltage
Max DC short circuit current (module Isc)
Overvoltage class DC port
DC port backfeed current
PV array configuration

OUTPUT DATA (AC)

Peak output power
Maximum continuous output power
Nominal (L-L) voltage/range ²
Maximum continuous output current
Nominal frequency
Extended frequency range
AC short circuit fault current over 3 cycles
Maximum units per 20 A (L-L) branch circuit ³
Overvoltage class AC port
AC port backfeed current
Power factor setting
Power factor (adjustable)

EFFICIENCY

Peak efficiency
CEC weighted efficiency

MECHANICAL DATA

Ambient temperature range
Relative humidity range
Connector type (IQ7-60-2-US & IQ7PLUS-72-2-I
Connector type (IQ7-60-B-US & IQ7PLUS-72-B-I

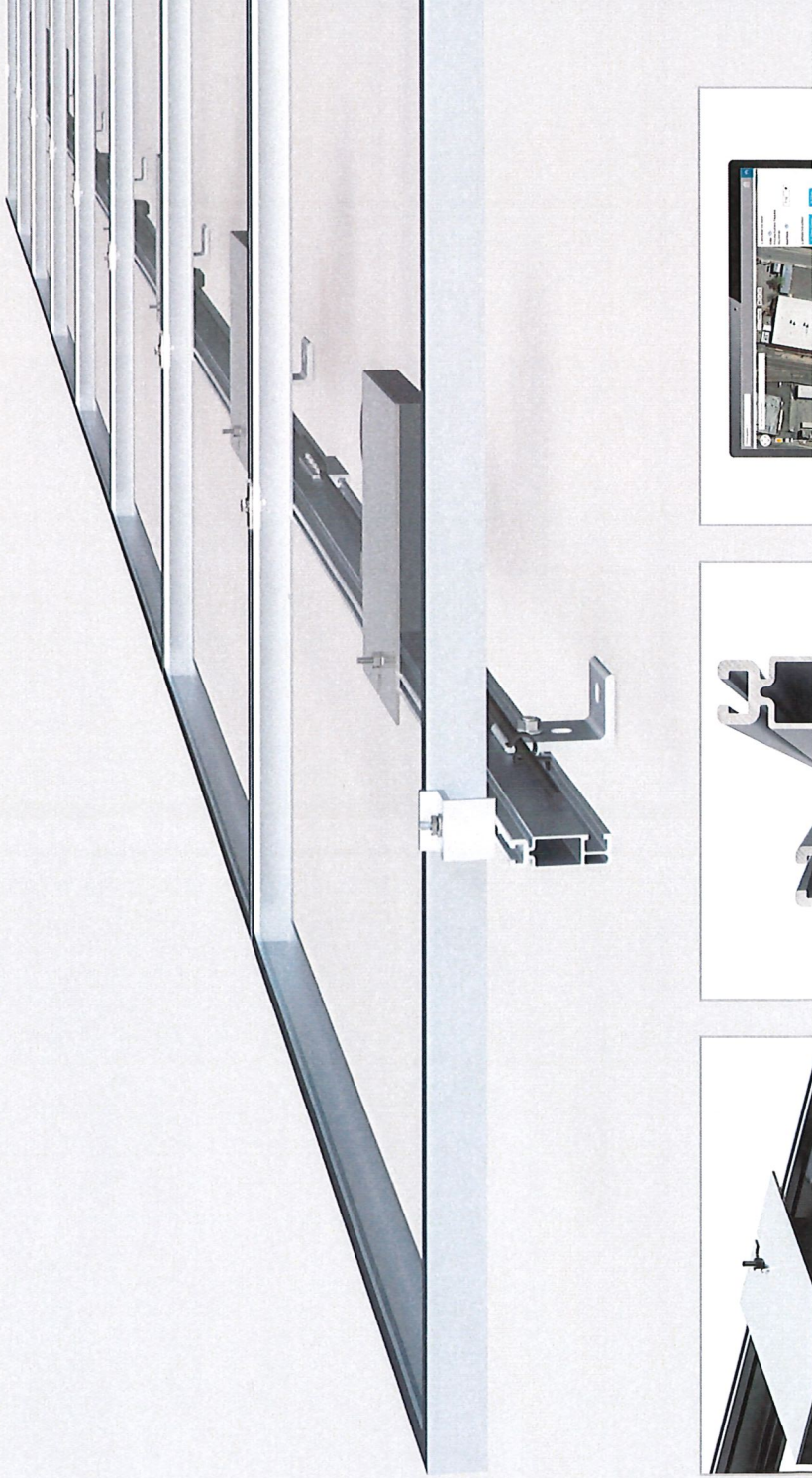
Dimensions (WxHxD)
Weight
Cooling
Approved for wet locations
Pollution degree
Enclosure
Environmental category / UV exposure rating

FEATURES

SM SOLARMOUNT

UNIRAC

SOLARMOUNT defined the standard in solar racking. New enhancements are designed to get installers off the roof faster than ever before. Components are pre-assembled and optimized to reduce installation steps and save labor time. Our new grounding & bonding process eliminates copper wire and grounding straps to reduce costs. Utilize the microinverter mount with a wire management clip for an easier installation.



SM SOLARMOUNT

OPTIMIZED COMPONENTS INTEGRATED BONDING & PRE-ASSEMBLY

Components are pre-assembled and optimized to reduce installation steps and save labor time. Our new grounding & bonding process eliminates copper wire and grounding straps to reduce costs. Utilize the microinverter mount with a wire management clip for an easier installation.

VERSATILITY

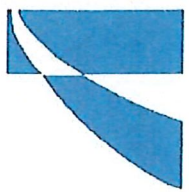
ONE PRODUCT - MANY APPLICATIONS
Quickly set modules flush to the roof or at a desired tilt angle in any landscape while securing a large variety of framed modules. Available in mill, clear and dark anodized finishes to meet your project's aspirations.

AUTOMATED DESIGN

DESIGN PLATFORM AT YOUR SERVICE
Creating a bill of materials is just a few clicks away with our automated design platform. Streamlining the process of designing a code compliant system, creating a user profile, and recall preferences and projects will enjoy the ability to share projects with customers, from the field to a distributor, just click and share.



UL2703



DOTEC CORP.

CUSTOMIZED ENGINEERING SOLUTIONS

August 11, 2017

To: Unirac, Inc.
1411 Broadway Blvd NE
Albuquerque, MN 87102-1545

Attn: Engineering Department,

Re: Engineering Certification for Unirac's SolarMount™ Design & Engineering Guide and U-Builder

DOTec Engineering has reviewed and certified Unirac's SM SolarMount™ "Design & Engineering Guide: Flush-To-Roof Design" and the "Installation Guide", including Unirac's three rail types, Solarmount Light, Solarmount Rail and Solarmount HD.

All information, data, and analysis contained within the D & E Guide and U-Builder are based on, and comply with the following:

- I. ASCE/SEI 7-10 – Minimum Design Loads for Buildings and other Structures
- II. 2012 and 2015 International Building Code (IBC)
- III. 2012 International Residential Code (IRC)
- IV. Steel Construction Manual, 13th Ed., American Institute of Steel Construction
- V. Aluminum Design Manual, The Aluminum Association, 2005

This certification excludes connections to the building structures and the effects on the building structure components.

This letter certifies that the structural calculations contained within Unirac's SolarMount Design & Engineering Guide and U-Builder are in compliance with the above Codes.

Please call if you have any questions or concerns.





September 01, 2020

Unirac
1411 Broadway Blvd. NE
Albuquerque, NM 87102

Attn.: Unirac - Engineering Department

Re: Engineering Certification for the Unirac U-Builder 2.0 SOLARMOUNT Flush Rail

PZSE, Inc. - Structural Engineers has reviewed the Unirac SOLARMOUNT rails, proprietary mounting system constructed from modular parts which is intended for rooftop installation of solar photovoltaic (PV) panels; and has reviewed the U-builder Online tool. This U-Builder software includes analysis for the SOLARMOUNT LIGHT rail, SOLARMOUNT STANDARD rail, and SOLARMOUNT HEAVY DUTY rail with Standard and Pro Series hardware. All information, data and analysis contained within are based on, and comply with the following codes and typical specifications:

1. Minimum Design Loads for Buildings and other Structures, ASCE/SEI 7-05, ASCE/SEI 7-10, ASCE/SEI 7-16
2. 2006-2018 International Building Code, by International Code Council, Inc. w/ Provisions from SEAOOC PV-2 2017.
3. 2006-2018 International Residential Code, by International Code Council, Inc. w/ Provisions from SEAOOC PV-2 2017.
4. AC428, Acceptance Criteria for Modular Framing Systems Used to Support Photovoltaic (PV) Panels, November 1, 2012 by ICC-ES.
5. 2015 Aluminum Design Manual, by The Aluminum Association, 2015

Following are typical specifications to meet the above code requirements:

Design Criteria:

- Ground Snow Load = 0 - 100 (psf)
- Basic Wind Speed = 85 - 190 (mph)
- Roof Mean Height = 0 - 60 (ft)
- Roof Pitch = 0 - 45 (degrees)
- Exposure Category = B, C & D

Attachment Spacing: Per U-builder Engineering report.

Cantilever: Maximum cantilever length is L/3, where "L" is the span noted in the U-Builder online

Components and Cladding Roof Zone
The Components and Cladding Roof Zone Cladding design.

- Notes:
- 1) U-builder Online tool include roof capacity
 - 2) Risk Category II per
 - 3) Topographic factor
 - 4) Array Edge Factor
 - 5) Average parapet height
 - 6) Wind speeds are L
 - 7) Attachment spacing

Design Responsibility:

The U-Builder design software is intended where required by the authority having direction of a design professional will

- Evaluate whether the U-Builder
- Understand and determine

This letter certifies that the Unirac SOLARMOUNT report and the manufacture specifications

This certification excludes evaluation

- 1) The structure to support the weight and deflection of structural framing of snow accumulation on the
- 2) The attachment of the SOLARMOUNT
- 3) The capacity of the solar mounting

Certificate



Certificate no.

US 82160015 05

License Holder:

Unirac Inc.
1411 Broadway NE
Albuquerque NM 87102
USA

Manufacturing Plant:

Unirac Inc.
1411 Broadway NE
Albuquerque NM 87102
USA

Test report no.: USA-31440029 006

Client Reference: Tom Young

Tested to: UL 2703:2015

Certified Product: Module Rack Mounting System

License Fee - Units

Additional Modules Qualified for Electrical Bonding: 7

Canadian Solar
Flextronics
Jinko Solar

Jinko YI: JKMxxxP-YY (YY=72 or 60)
Jinko Eagle YY: JKMxxxPP-YY (YY=72 or 60)
Jinko Eagle MXY: JKMSxxxPP-YY (YY=72 or 60)
Jinko 60: JKMxxxPP-60
Jinko Black 60: JKMxxxPP-60B

Kyocera
IG Electronics
NeON 2 IGxxxYY (YY=N1C-G4 or N2W-G4),
NeON IGxxxYY (YY=N2W-B3 or S1C-G4)

(continued)

S-5![®]

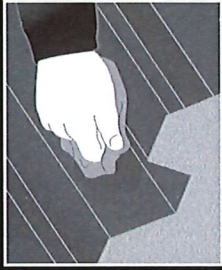
The Right Way!

ProteaBracket[™]

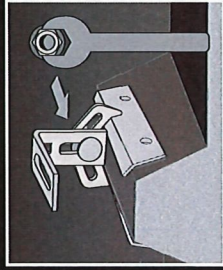
ProteaBracket[™] is the most versatile standing seam metal roof attachment solution on the market, fitting most trapezoidal sheet profiles with and without intermediate insulation. It features an adjustable attachment base and multiple solar module attachment options (illustrated on back) to accommodate varying widths and heights. There are no messy sealants to apply and no chance for leaks; the ProteaBracket comes with factory-applied, adhesive rubber sealant to ensure quick installation and a weather-proof fit.

Installation is simple! The ProteaBracket is mounted directly onto the crown of the panel, straddling the profile. No surface preparation is necessary;

most anything to metal roofs!



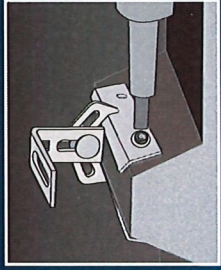
1



2



3



4

ProteaBracket[™]

S-5![®]

The Right Way!

Each ProteaBracket[™] comes with adhesive rubber sealant on the base and stainless steel bimetal attachment. All four pre-punched holes must be tested strength. Mounting hardware ProteaBracket. For design assistance or visit www.S-5.com for the information that can be used for load-critical design. Also, please visit our website for more information including metallurgical compatibility. S-5[®] holding strength is unmatched.

Multiple Attachment Options:

Side Rail Option

Top Rail Option

.com